

The **XLT0959 Series** is an ultra-compact, long life linear position sensor with integral electronics. Designed with a Ø9.53mm stainless steel case, the internal winding and electronics are fully encapsulated for superior performance under temperature and vibration.

These sensors are manufactured to quality standards required for high performance, high cyclic control and measurement systems. They operate from a 5VDC supply and provide a low noise analogue output of 0.5 - 4.5 VDC.

With a wide measurement range of 50mm to 175mm, the XLT's precision wound inductive coils and innovative electronics produce low thermal drift compared to other similar inductive products.

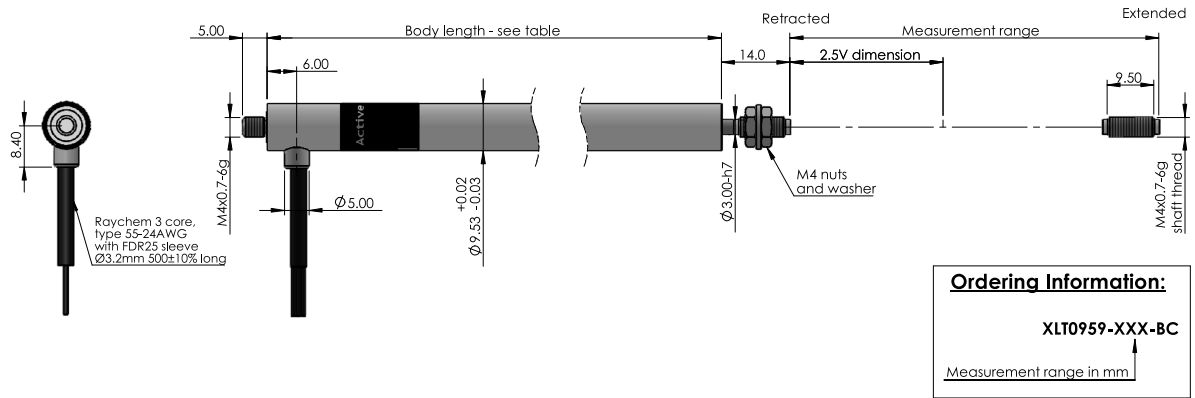
All sensors are designed to be environmentally protected against the ingress of dust and water to IP67.

Key features and benefits

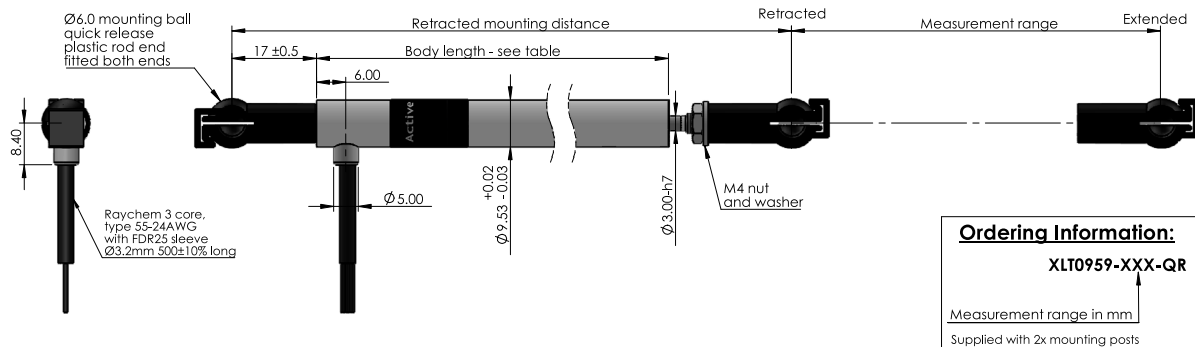
- Measurement range 50mm to 175mm (2" to 7")
- Ultra-compact Ø9.53mm stainless steel case with Ø3.0mm shaft
- Maximum operating temperature 125°C (257°F)
- Sealed to IP67
- RW-200-E sleeved type 55 Raychem cable
- Choice of mounting
- Contactless technology
- Superior temperature performance – typically $<\pm 0.01\%$ FS/°C
- Integral separate signal conditioning
- Option of carbon fibre shaft shield
- Custom designs available on request



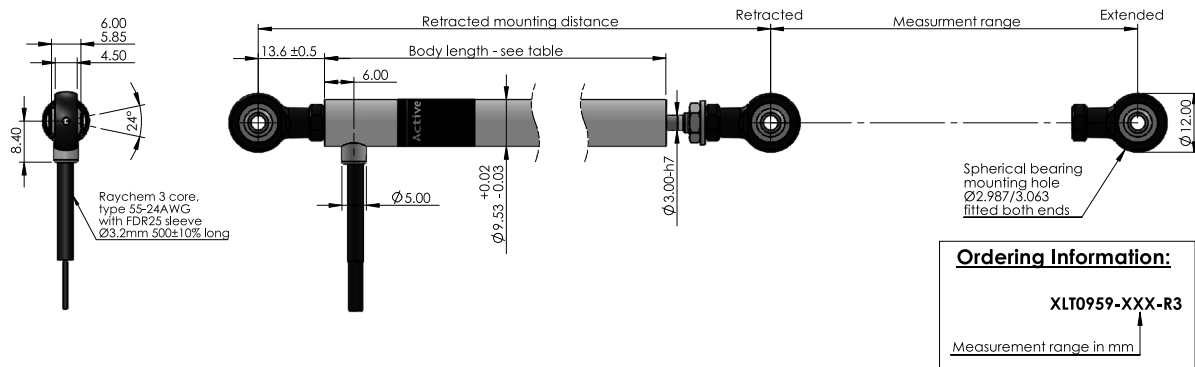
XLT0959-XXX-BC – Threaded mounting



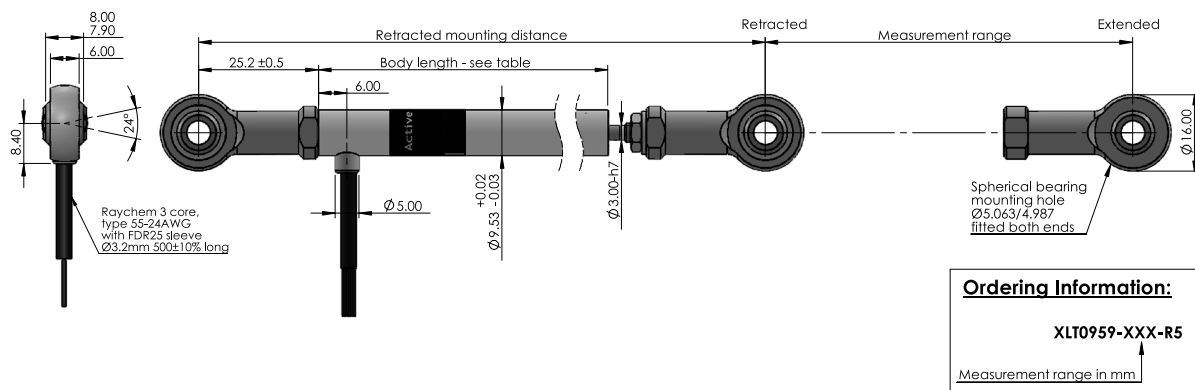
XLT0959-XXX-QR – Quick release ball joint



XLT0959-XXX-R3 – 3mm rod end



XLT0959-XXX-R5 – 5mm rod end

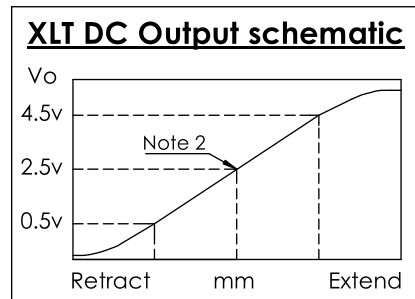
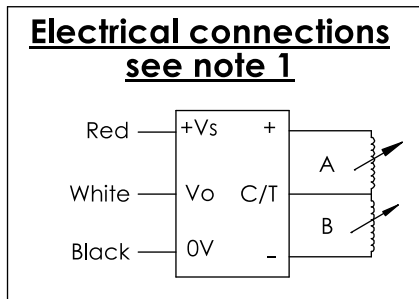


Electrical and mechanical specification for XLT0959 Series

Measurement range	50	75	100	125	150	175	mm
2.5V dimension (BC model)	25.0	37.5	50.0	62.5	75.0	87.5	mm
Retracted mounting distance (QR model)	151.0	200.0	225.0	250.0	275.0	300.0	mm
Retracted mounting distance (R3 model)	144.0	193.0	218.0	243.0	268.0	293.0	mm
Retracted mounting distance (R5 model)	167.0	216.0	241.0	266.0	291.0	316.0	mm
Body length	109.0	158.0	183.0	208.0	233.0	258.0	mm
Input voltage (+Vs)	+5.0±5%						VDC
Supply current	<10						mA DC
Output voltage (Vo) (Note 2,6)	0.5 to 4.5						VDC
Sensitivity (±2%) (Note 3,5)	80.00	53.30	40.00	32.00	26.67	22.86	mV/mm
Non-linearity (Note 3)	<±0.5						%FS
Thermal drift (Note 4)	<±0.01						%FS/°C
Output load	>150						ohms
Output noise and ripple	<0.1						%FS pk-pk
Frequency response (-3dB) (Nominal)	500						Hz
Mechanical range	Measurement range +1						mm
Shaft velocity	<1000						mm/sec
Operating temperature	-40 to 125						°C
Sealing	IP67						
Shaft operating force	<100 (typical)						grams
Weight BC model(approx)	40	58	64	70	76	82	grams
Weight QR model(approx)	43	61	67	73	79	85	grams
Weight R3 model(approx)	43	63	69	75	81	87	grams
Weight R5 model(approx)	51	74	80	86	92	98	grams
Materials	Case - Stainless steel 410 Shaft - Stainless steel 316 Armature - Nickel iron alloy						

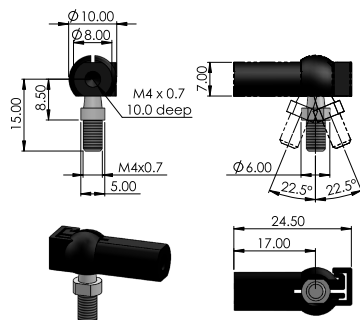
Note:

1. Incorrect wiring will cause internal damage to the sensor.
2. Sensor calibrated to 2.5V at retracted shaft position + (measurement range/2)
3. Non-linearity error and sensitivity is calculated from least squares best fit method
4. Average thermal drift over operating temperature range
5. When +Vs = +5.0 ±2mVDC.
6. Vo is ratiometric with +Vs
7. General dimension tolerance is ±0.25mm



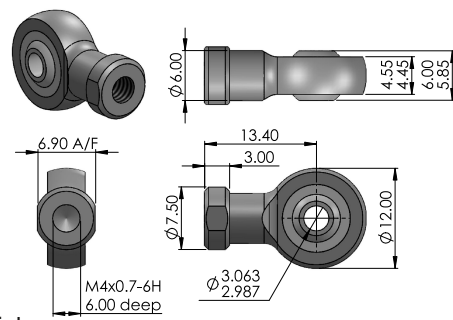
Accessories

Quick release ball joint Part No: JN029-003



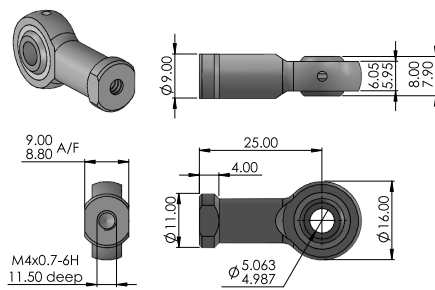
Material:
Body - PA66, Black
Ball Stud - Hardened Carbon
Steel, Zinc plated, clear passivated

3mm rod-end Part No: PT1312-0104-19



Material:
Housing - Aluminium Alloy, anodised black
Ball - Steel BS970 230M07, electroless nickel plated
Race - Gr nylon

5mm rod-end Part No: PT1322-0104-19



Material:
Housing - Aluminium Alloy, anodised black
Ball - Steel BS970 230M07, electroless nickel plated
Race - Gr nylon